SONY

3-759-193-12 (1)

Stereo Cassette Deck

Operating Instructions EN
Mode d'emploi F
Manual de instrucciones E
Manual de Instruções P

TC-S1

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WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Welcome!

Thank you for purchasing the Sony stereo cassette deck. Before operating the unit, please read this manual thoroughly and retain it for future reference.
You can connect the TC-S1 and these other components to make a stereo system.
TC-S1 (This unit)
CDP-S1 (Compact disc player)
ST-S1 (Tuner)
TAE-S1 and SA-S1 (Preamplifier and active speaker)
TA-S2 and SS-B1S (Integrated stereo amplifier and speaker)*

* Some countries are not sold both components. For details, please consult your nearest Sony dealer.
Features for this system are listed below.

Features for this System

You can use the functions below by connecting the audio bus cable (supplied with TAE-S1/TA-S2) to the AU BUS jacks of each component and AC cord to the mains of each component.
- Have the power turn on automatically when the power of the TAE-S1/TA-S2 turns on.
- Have the input selector on the TAE-S1/TA-S2 set to the TAPE position automatically when play button presses.
- Control your TC-S1 from a distance with the remote commander supplied with TAE-S1/TA-S2.

To set up the TC-S1 to this system, see the operation manual supplied with TAE-S1/TA-S2.

Using with the Remote Commander

This manual also explains functions usable only with the remote commander supplied with TAE-S1/TA-S2.
- Inserting a blank space during recording

Features for TC-S1

- The Dolby* S type NR system, which reduces tape noise, has been adopted in the stereo system in addition to Dolby B- and C type NR systems.
- Automatic calibration of each deck which ensures optimum recording conditions to bring out the best in every tape.
- Automatic reverse playback and automatic tape type detection during playback and recording.

* Dolby noise reduction extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen. "DOLBY", the double-D symbol ◻◻ and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

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Chapter 1
Connecting the System

EN
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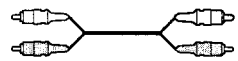
Before you Begin

Notes on Installation

- Place the unit in a location with adequate air circulation to prevent internal heat build up in the unit.
- Do not install the unit:
  - near heat sources such as radiators or air ducts.
  - in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
  - in an inclined position.
  - on a rug or other soft surfaces that would block the ventilation holes on the bottom of the unit.

Checking the Supplied Accessories

Make sure that all supplied accessories are included with your unit. This manual and the following item must be included with your unit.



Audio cord (2)

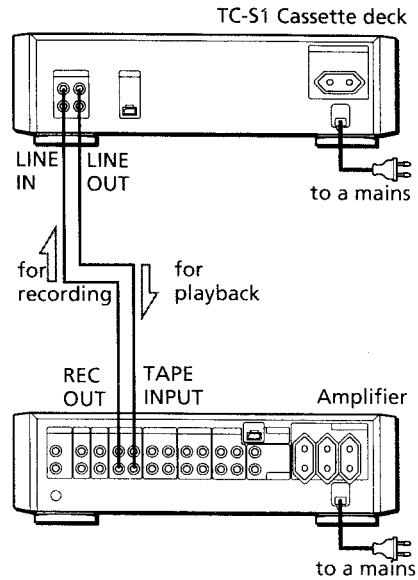
Do not throw away the carton or the packing material. They will come in handy when transporting the unit or shipping it for servicing.

Note on connection

- Turn off the power of each unit before making connections. Connect the mains lead last.
- Be sure to insert the plugs firmly into the jacks. Loose connection may cause hum and noise.
- Leave a little slack in the connecting cord to allow for inadvertent shock or vibration.
- The supplied audio cord plug is colour coded. The red plug is for the right channel (R) and the white one for the left channel (L).

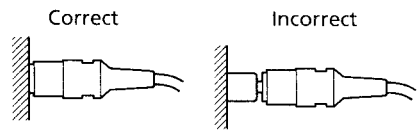
Connecting the Audio Cord

Connect the unit to an amplifier as shown below.



Note on connecting the audio cord

Connect the audio cord firmly as illustrated below:



To set up your TC-S1 with other components to the system, see operation manual supplied with TAE-S1/TA-S2 stereo preamplifier/integrated stereo amplifier (optional).

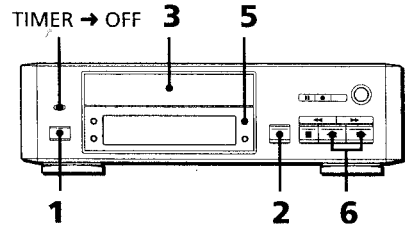
Detaching the Side Panels

If you choose to remove the side panels from the unit, do not reinsert the side panel screws into the cabinet holes. Use the shorter M3 × 6 screws (supplied) instead. For safety's sake, disconnect the AC power cord from the AC outlet before inserting the M3 × 6 screws into the cabinet holes.

Chapter 2
Playback

Playing Back

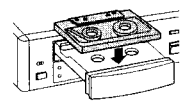
You can use TYPE I (NORMAL), TYPE II (HIGH) and TYPE IV (METAL) tapes. When you insert the tape, the deck detects the tape type automatically.



1 Press POWER.
Also turn on the amplifier.

2 Press ⏏ to open the cassette tray.

3 Place the cassette on the cassette tray with the desired side facing up.



4 Check that the input selector on the amplifier is set to the tape player position.
Skip this step when the unit is connected to TAE-S1/TA-S2 with an audio bus cable.

5 Choose single-side or dual-side play.

To play	Switch DIRECTION to
One side of the tape	⇆
Both sides	⮌ or ⮌*

* The deck stops automatically after repeating the sequence 5 times.

6 Press ▷ (to play the upper side) or ◁ (to play the reverse side).
The tape starts playing.

To	Press
Stop play	■
Pause	❚❚ PAUSE
Resume play after pause	❚❚ PAUSE or ▷ or ◁
Fast forward	▶▶ for upper side ◀◀ for reverse side
Rewind	◀◀ for upper side ▶▶ for reverse side
Remove the cassette	⏏

Set the TIMER selector to OFF
Otherwise, recording or playback will start automatically even if the power is turned off.

To start operations while the cassette tray is open
Operations may be started while the cassette tray is open. For example, when the ◁ or ▷ button is pressed while the cassette tray is open, the cassette tray will close and playback will start. Similarly, pressing the ◀◀, ▶▶, or ❚❚ buttons while the cassette tray is open will close the cassette tray and start the respective operation.

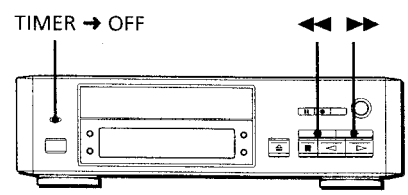
To reset the counter
Press RESET.

When listening to a tape recorded with the Dolby noise reduction system
Press the DOLBY NR button to select B or C or S.
The Dolby noise reduction system reduces tape hiss noise in low-level high frequency signals by boosting the signals during recording and lowering them during playback. The Dolby S NR system provides the highest reduction in tape hiss noise in both low and high frequencies.

Note on the Dolby HX PRO
The Dolby HX PRO system works automatically. This system works only during recording, not during playback.

Locating a Selection — AMS (Automatic Music Sensor)

Using the AMS feature, you can quickly find the track you're looking for. The deck senses where a music track begins by detecting a blank space of more than four seconds between tracks.



Playing direction indicator	To play the next track, press	To play the track being played, press
▷	▶▶	◀◀
◁	◀◀	▶▶

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→ continued

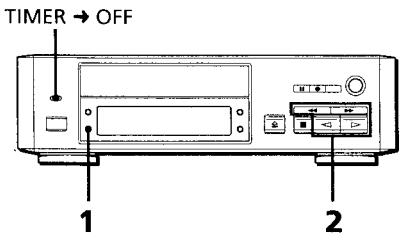
Memo

When the beginning of the specified selection is reached, playback automatically restarts.

The AMS may fail to detect the start of a selection in the following cases:

- If there is noise in the space before the selection.
- If the space before the selection is less than four seconds long.

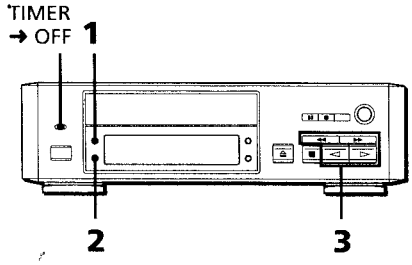
Playing Back Automatically After Rewinding —Auto Play



1 Make sure the "M" indicator is off. If it is not, press MEMORY.

2 While holding down ▷ or ◁, press ◀◀ or ▶▶.

From the beginning of pressing	While
upper side	▷, press ◀◀.
reverse side	◁, press ▶▶.



1 Press RESET to reset the counter to 0000 at the position where you want playback to begin.

2 Press MEMORY to turn on the Memory Play function.
"M" indicator appears.

3 While holding down ◁ or ▷, press ◀◀ or ▶▶ to return to the specified position.

Direction Indicator	While pressing
►	▷, press ◀◀.
◄	◁, press ▶▶.

Returning to the specified position while the unit is stopped — Memory Stop

If you press only the ◀◀ or ▶▶ button when the MEMORY indicator is on and the unit is stopped, the tape rewinds and then stops when the counter reaches 0000.

To turn off the Memory Play function

Press MEMORY button, so that the MEMORY indicator disappears.

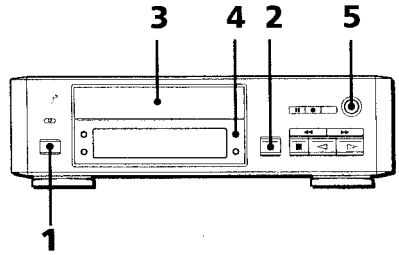
Locating a Specific Playback Position — Memory Play

The Memory Play function works with the counter to locate a specific position on a cassette quickly and play from that position automatically.

Chapter 3
Recording

Recording

Preparing for Recording

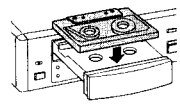


Follow the procedure below to start recording at the beginning of the tape (side A for example).

1 Turn on the power.

2 Press ⏏.
The cassette tray opens.

3 Place the cassette to be recorded.
Place the cassette on the cassette tray with the desired side (side A) facing up.



4 Select the side(s) to be recorded.

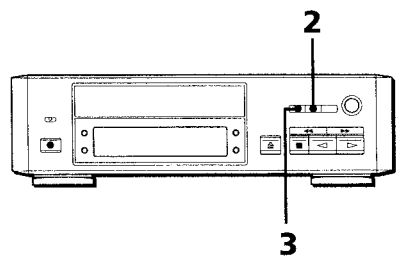
To record on to	Set
one side	⇄
Both sides	⮌ or ⮌*

* Even at the ⮌ position, recording automatically stops when the tape reaches the end of the reverse side.

5 Turn REC LEVEL to the centre position.

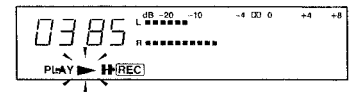
To adjust the recording level accurately
See "Adjusting the Recording Level".

Start Recording



1 Set the input selector on the amplifier to the desired source position.

2 Press ● to enter the recording pause mode.
The tape direction appears in the display.



(If ◁ PLAY indicator appears, press ▷ to change the side of the cassette being recorded.)

3 Press ❚❚ PAUSE or ▷ to start recording.

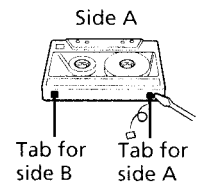
4 Start the programme source.

To stop recording
Press the ■ button.

Set the TIMER selector to OFF
Otherwise recording or playback will start automatically when the power is turned on.

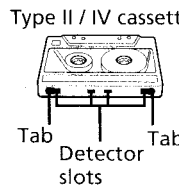
Protecting a Recording

To protect a recording on side A or B
Break out the respective tab.



To record on a cassette that is protected
Cover the hole with plastic tape.

When using Type II or Type IV cassettes
Be careful not to cover the detector slots which are necessary for automatic tape-type detection.



Cassette care

- Avoid touching the tape surface of a cassette to prevent contamination of the heads by dirt, dust, or oil on the skin.
- Keep cassette away from equipment with magnets, such as speakers and amplifiers, as erasure or distortion of the recorded tape could occur.
- Do not expose cassettes to direct sunlight, extremely cold temperatures, or moisture.

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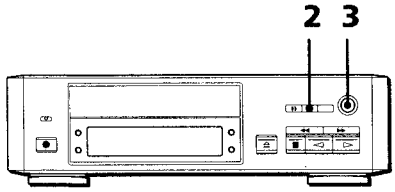
Note on cassettes longer than 90 minutes

We do not recommend the use of cassettes longer than 90 minutes except for long continuous playback.

Adjusting the Recording Level

You can record on a tape without distortion and hiss by adjusting the recording level.



1 Play the programme source to be recorded.
For example: To record from a CD, play the CD player.

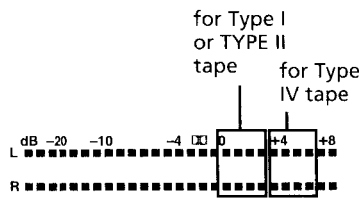
2 Press REC ●.
The peak level meter appears.

3 Adjust the REC LEVEL control.

Adjusting the REC LEVEL control as high as possible without exceeding the recommended range for the inserted tape.

Peak level meter recording by tape type

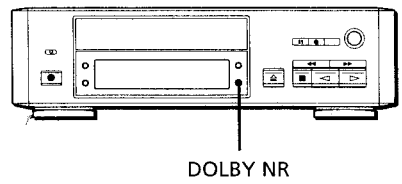
Recommended maximum peak level meter readings.



Tips on recording level adjustment

Setting the recording level too low will produce a hissing sound, while setting it too high will produce distortion. Generally the proper recording level for high and low frequencies is lower than that for middle frequencies. When recording programme sources with many high and low frequencies, set the level to a relatively low position, then make adjustments according to the recording results.

Recording with the Dolby Noise Reduction System



1 Press DOLBY NR to select B, C, or S.
Each time you press DOLBY NR, the DOLBY NR system changes as follows:
B → C → S → OFF (no indication)

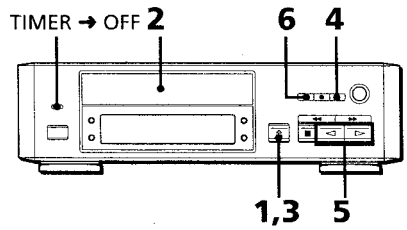
2 Start recording.
(Refer to page 7.)

What is the DOLBY HX PRO System?

The Dolby HX PRO system provides precise bias control during recording to reduce distortion and improve linearity in the high-frequency range. The result is recorded sound that is highly faithful to the original. Since the HX PRO system operates only during recording, the same high-quality sound is produced even during playback on other tape decks. The HX PRO system is independent from the Dolby NR system and is unaffected by the Dolby NR setting.

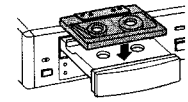
Calibrating the Recording Level

Cassettes are available in several types, each with varying magnetic properties. In additional to the Automatic Tape Selection (ATS) system which sets the appropriate equalization characteristics, bias current and recording level for each tape type, the automatic calibration function can be used to obtain optimum recording conditions for your tape, especially in conjunction with the Dolby NR system.



1 Press ⏏.
The cassette tray opens.

2 Place the cassette to be recorded.
Place the cassette on the cassette tray with the desired side facing up.



3 Press ⏏.
The cassette tray closes.

4 Press the respective AUTO CAL.
The respective CAL indicator appears in the display, "CAL" appears on the counter and the unit enters recording pause mode.

5 Press ▷ or ◁ to select the side to be recorded.
To select the upper side, press ▷.
To select the reverse side, press ◁.

6 Press ❚❚.
The unit fastwinds a short distance, the unit performs recording, rewinding and playback as part of the calibration process.
After automatic calibration is completed, the tape rewinds to the beginning position, the counter returns to normal and the unit enters stop mode.

7 Start recording.
(Refer to page 7.)

To stop the automatic calibration

Press ■.

To apply the generated calibration data to another tape

As long as the unit remains on, all generated calibration data are saved and applied by the system whenever a cassettes of the same type (I,II or IV) is inserted.
The CAL indicator appears when previous calibration data are being applied. However, since cassette of the same type also vary in their characteristics, recalibration is recommended each time a new cassette is inserted.

To clear the automatic calibration data

While pressing ■, press AUTO CAL.

Notes

- Since a test tone is recorded on the tape during automatic calibration, previously recorded material is erased where the test tone is recorded.
- Relatively new tape and clean heads are recommended for best calibration results. Excessively worn tape or dirty heads may result in incorrect calibration values.
- The automatic calibration function works only when deck is stopped.

The CAL indicator flashes continuously

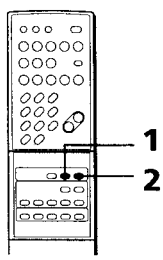
The automatic calibration process has been interrupted by:

- The end of the tape. Reverse the tape direction or fastwind to a new position that allows recording of the test tone.
- Damaged tape or dirty heads. Change the cassette or clean and demagnetize the heads.

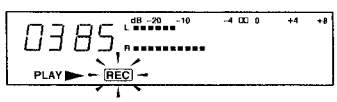
Inserting a Blank Space During Recording —Record Muting

You can use the record muting function only with the remote commander supplied with TAE-S1/TA-S2 stereo preamplifier/integrated stereo amplifier.

The record muting function allows you to insert a four-second blank between selections to enable proper AMS operation (see page 5), or to replace unwanted recorded material with a blank of any length.



1 While recording, press and release O.



The REC indicator start flashing. During this time, no incoming signals are recorded on the tape.
After four seconds, the REC and II indicators light up and the unit enters recording pause mode.

2 Press II when you want to resume recording.

To create a blank longer than four seconds

Press the O button and keep it pressed for as long as desired. After four seconds, the REC indicator flashes at a faster rate. When you release the O button, the II indicator lights up and the unit goes into recording pause mode.
Press the II button when you want to resume recording.

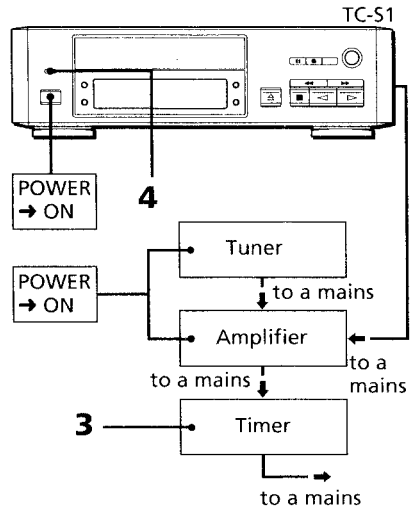
Chapter 4

Other Operations

Playing Back and Recording Using a Timer

By using an optional timer, you can record or play back at a preset time.

Dolby NR setting and direction mode setting are maintained even if the power is turned off.



1 Prepare the tape deck for playback or recording.

For	Follow steps
playback	1 through 5 on page 5.
recording	1 through 5 on page 7.

After completing the preparations, press ■ to set the tape deck to stop mode. Make sure to close the tray completely.

2 Set the input selector on the amplifier.

For	The input selector
playback	tape position
recording	source to be recorded

3 Set the timer.
Power to the tape deck turns off.

4 Set TIMER to PLAY or REC.
Playback or recording will start at the preset time.

Note

After timer-activated recording has ended, set the TIMER selector on the tape deck to OFF. If you leave the TIMER selector at REC, the unit will automatically start recording the next time you turn the power on, and recorded material may be erased.

Check the direction mode indicator

Timer-activated operations start from the side of the cassette being used when the power was turned off.

Keep the POWER switch on the unit on

When you set the timer, the power to the tape deck turns off. You must, however, leave the POWER switch on to enable timer-activated operation.

Chapter 5
For Your Information

Precautions

If you have any questions or problems connecting your stereo system, please consult your nearest Sony dealer.

On safety

- Should any solid object or liquid fall into the component, unplug the stereo system checked by qualified personnel before operating it any further.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- Unplug the system from the wall outlet (mains) if it is not to be used for an extended period of time. To disconnect the cord (mains lead), pull it out by the plug. Never pull the cord itself.
- AC power cord must be changed only at the qualified service shop.

On operation

When the system is not used, turn off the power to conserve energy and to extend the useful life of your system.

Caution on adjusting volume

Do not turn up the volume while listening to a portion with very low level inputs or no audio signals. If you do, the speakers may be damaged when a peak level portion is played.

Troubleshooting Guide

If you run into any problem using the stereo, use the following check list. After first checking that:

- The power cord is connected firmly.
- The speakers are connected correctly and firmly.
- The head, capstans and pinch rollers are clean.
- The amplifier controls and switches are correctly set.

Should any problem persist after you have made the checks below, consult your nearest Sony dealer.

Function buttons and tape transport problems

The buttons do not work.

→ The cassette tray is not fully closed.
→ The cassette is not properly inserted.
→ You pressed the button immediately after turning on the power. Wait until the ▮▮ indicator stops flashing.

Playback or recording begins when the power is turned on.

→ The TIMER selector is not set to OFF.

The tape does not record.

→ No tape in the cassette tray.
→ The tab has been removed from the cassette.
→ The tape has reeled to the end.

Excessively loud tape transport noise during fast winding.

→ This noise is caused by the cassette and is not a mechanical problem.

The cassette tray will not close.

→ There has been a power failure or the power cord has been disconnected while the cassette holder is open. Reconnect the power.

The ⏏ button does not function.

→ There has been a power failure or the power cord has been disconnected. Reconnect the power.

Recording and playback problems

The tape does not record nor playback or there is a decrease in sound level.

→ The heads are dirty. Clean them.
→ Magnetic deposits have built-up on the record/playback heads.

There is excessive wow or flutter, or the sound drops out.

→ The capstans or pinch rollers are contaminated.

The tape does not erase completely.

→ Magnetic deposits have built-up on the record/playback heads.

Noise increase or the high frequencies are erased.

→ Magnetic deposits have built-up on the record/playback heads.

Unbalanced tone in high frequencies.

→ Improper setting of the Dolby NR.
→ The system is placed near a television set.

The specified selection cannot be located even when AMS is on.

→ There is noise in the space before the selection.
→ The space before the selection is less than four seconds long.
→ The ◀◀ (or ▶▶) button was pressed immediately before the beginning of the following selection.

Playback begins in the middle of the selection when AMS is on.

→ The selection contains one of the following:
— a long pause
— a passage of low frequencies or very low volume
— a gradual increase or decrease in volume.

Noise

Hum noise.

→ The system is stacked on or under the amplifier.

Noise is recorded.

→ The recording was made near equipment such as a television set or a colour monitor, and interference has affected the recording on the tape and the Dolby NR system.

Maintenance

Cleaning Heads and Tape Path

Clean after every 10 hours of use and before recording.
Use any commercially available cleaning cassette. For more details, refer to the operating instructions supplied with it.

To Demagnetize the Heads

After 20 to 30 hours of use, enough residual magnetism will have built up on the heads to begin to cause loss of high frequencies and hiss. At this time, demagnetize the heads and all metal parts in the tape path with a commercially available tape head demagnetizer. Refer to the instructions of the demagnetizer.

To Clean the Cabinet

Use a soft cloth slightly moistened with mild detergent solution.

Specifications

Recording system
4-track 2-channel stereo
Fast winding time
Approx. 110 sec. (with Sony C-60 cassette)
Bias
AC bias
Heads
Erasing head × 1 (F&F head)
Recording/playback head × 1 (SD head)
Motors
Capstan motor × 1
Reel motor × 1
Assist (mechanism drive) motor × 1
Signal-to-noise ratio (at peak level and weighted) (Dolby NR off)

Cassette type	S/N ratio
Type IV	58 dB
TYPE II	57 dB
Type I	55 dB

S/N improvement (approximate values)
With Dolby B NR on: 5 dB at 1 kHz; 10 dB at 5 kHz
With Dolby C NR on: 15 dB at 500 Hz; 20 dB at 1 kHz
With Dolby S NR on: 10 dB at 100 Hz; 24 dB at 1 kHz
Harmonic distortion
0.4% (with Type I, 160 nWb / m, 315 Hz, 3rd H.D.)
1.8% (with Type IV, 250 nWb / m, 315 Hz, 3rd H.D.)
Frequency response (Dolby NR off)

Cassette type	Frequency response
Type IV	25 - 19,000 Hz (±3dB, IEC) 25 - 13,000 Hz (±3dB, -4 dB recording)
Type II	25 - 17,000 Hz (±3dB, IEC)
Type I	25 - 16,000 Hz (±3dB, IEC)

Type IV: Sony Type IV (METAL)
Type II: Sony Type II (HIGH)
Type I: Sony Type I (NORMAL)
WOW and flutter
±0.13 % W.Peak (IEC)
0.06 % W.RMS (NAB)
±0.16 % W.PEAK (DIN)

Inputs

LINE IN (phono jacks)
Sensitivity 0.16 V
Input impedance 47 k ohms

Outputs

LINE OUT (phono jacks)
Output level 0.5 V (at 47 k ohms)
Load impedance over 10 k ohms

General

Power requirements
220 - 230 V AC, 50 / 60 Hz
Power consumption
15W
Dimensions (including projections)
Approx. 310 × 90 × 345 mm (12 1/4 × 3 5/8 × 13 5/8 inches) (w/h/d)
Mass
Approx. 4.3 kg (9 lb 8 oz)

Supplied accessories

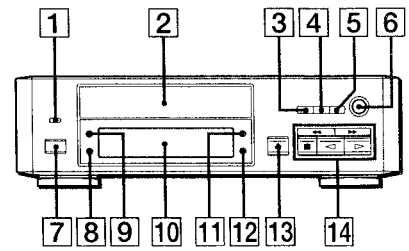
Audio cord
(2) (2 phono plugs - 2 phono plugs)

Design and specifications are subject to change without notice.

Index to Parts and Controls

Front panel

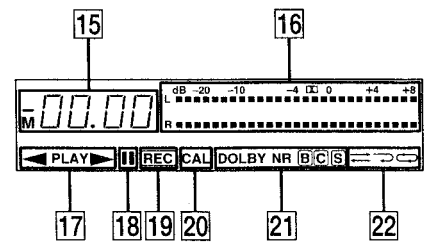
Refer to the pages indicated in parenthesis for details.



1 TIMER selector (10)
2 Cassette tray (5)
3 ❚❚ PAUSE button (5)
4 ● REC (recording) button (7)
5 AUTO CAL (recording calibration) button (8)
6 REC (recording) LEVEL control (8)
7 POWER switch (5)
8 MEMORY button (6)
9 RESET button (6)
10 Display
11 DIRECTION (Direction) button (5)
12 DOLBY NR (noise reduction) button (5)
13 ⏏ OPEN/CLOSE button (5)
14 Tape operating buttons (5)
■ (stop) button
◀◀/▶▶ (fast leftward / rightward) (AMS*) buttons
◁/▷ (upper / lower side play) buttons

* AMS: Automatic Music Sensor

Display section



15 Tape counter indication
16 Peak level meter
17 Deck status indicator
18 PAUSE indicator
19 REC (recording) indicator

20 CAL (calibration) indicator
21 DOLBY NR indicator
22 Direction mode indicator